

REMARKS

Claims 1 and 5 have been canceled. Reconsideration of the amended application respectfully is requested.

Independent claim 3 and depending claim 4 are rejected under 35 USC § 102(e) as being anticipated by *Eguchi et al.* (US 6,627,997). Depending claim 6 is rejected under 35 USC § 103(a) as being unpatentable over *Eguchi et al.* The rejections respectfully are traversed.

The rejections are based in part on the Examiner's assertion that *Eguchi et al.* disclose the following features of claim 3: (1) "a first resin film" that has an elasticity low enough to reduce stress induced by a difference in thermal expansion coefficient between the semiconductor substrate and the first resin film, and (2) "a second resin film" that has a higher elasticity and higher strength than does the first resin film.

The Applicant respectfully would disagree. In support of the first assertion the Examiner has referred to column 6, lines 15 — 32 of the *Eguchi et al.* for a teaching of the elasticity of the first resin film as recited in claim 3. However, the cited portion of *Eguchi et al.* mentions the range of an elastic modulus of a thermosetting resin to be incorporated into the thermoplastic resin. That is, the referenced elastic modulus of 500 MPa — 25CPa is not for the resin composition 5 itself that is asserted by the Examiner to correspond to the first resin film of the present invention. Rather, the elastic modulus of the resin composition 5 itself is found at column 9, line 38 (15 GPa), column 11, line 38 (17.5 GPa), column 14, line 10 (16.4 GPa), and column 14, line 62 (6.5 GPa), all of

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which are not low enough to reduce stress induced by difference in thermal expansion coefficient between the semiconductor chip 1 and the resin composition 5. Thus, *Eguchi et al.* do not disclose the claimed first resin film, which “has elasticity low enough to reduce stress induced by a difference in thermal expansion coefficient between the semiconductor substrate and the first resin film.”

With respect to the second resin film the Examiner references a disclosure in *Eguchi et al.* of an adhesive 7 used for bonding a heat spread plate 4 onto the semiconductor chip 1. *Eguchi et al.* disclose an example of the adhesive 7 to include an epoxy resin. However, contrary to the Examiner’s statement that the this film is disclosed to have an elastic modulus of 17.5 GPa, a careful review of the column 11, lines 36-38 will show that the referenced elastic modulus is that of the resin composition 5, not of the adhesive 7. Therefore, in view of the elastic modulus of resin composition 5 as discussed above, it cannot be concluded that the adhesive 7 has higher elasticity and higher strength than the resin composition 5. Therefore, the adhesive 7 of *Eguchi et al.* does not meet the requirements of the second resin film of the present invention that it have “higher elasticity and higher strength than the first resin film is formed on the other surface of the semiconductor substrate.” In view of the above, claim 3 is deemed clearly not to be anticipated by *Eguchi et al.*, and the rejection of this claim and claims 4 and 6 depending therefrom, accordingly should be withdrawn.

Independent claim 8 and depending claims 9 and 10 are rejected under 35 USC § 102(e) as anticipated by *Wakamiya et al.* (US Patent Publication No. 2002/0041013).

The rejection respectfully is traversed.

The rejection is based in part on the Examiner's assertion that *Wakamiya et al.* disclose a gold stress-absorbing layer 10 corresponds to a gold portion of the post as recited in the present claim 8. According to the semiconductor device of the invention as defined in claim 8, the gold portion of the post includes "a portion facing the passivation film/resin film interface." However, the gold stress-absorbing layer 10 of *Wakamiya et al.*, which is provided at the middle of a post 4, does not face the interface between a coating layer 7 and the protective dielectric layer 3 or the interface between the protective dielectric layer sealing resin 5, as would be required if the reference were to meet the requirements of the claim. Thus, the stress-absorbing layer 10 fails to meet the gold portion of the post in the present invention of claim 8 that requires the gold portion face the passivation film/resin film interface. It is also noted that this feature of the invention, as claimed in claim 8, has the advantage that shearing stress applied to the junction portion between the post and the electrode pad is more effectively reduced than in the case of the *Wakamiya et al.* structure. Claim 8, and claims 9, 10 and 13 depending therefrom, are deemed clearly to be patentable over *Wakamiya et al.* and the rejection accordingly should be withdrawn.

The Examiner also rejected claims 11 and 12 under 35 USC 103(a) as being unpatentable over *Wakamiya et al.* in view of *Shieh*. The rejection respectfully is traversed. Claims 11 and 12 depend from claim 8. *Shieh* fails to disclose the features of invention missing from *Wakamiya et al.* discussed above with regard to the rejection of

claim 8. Therefore, claims 11 and 12 are deemed clearly to be patentable for at least the reasons advanced above as to the patentability of claim 8, and the rejection accordingly should be withdrawn.

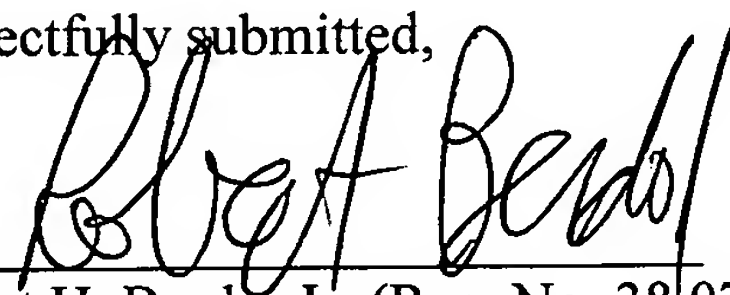
Based on the above, it is submitted that the application is in condition for allowance and such a Notice, with allowed claims 3, 4, 6 and 8 - 13, earnestly is solicited.

Should any fee be required, please charge the same to our Deposit Account No. 18-0002 and advise us accordingly.

May 26, 2006
Date

RHB:lw

Respectfully submitted,



Robert H. Berdo, Jr. (Reg. No. 38,075)
RABIN & BERDO, P.C.
CUSTOMER NO. 23995
(202) 371-8976